

Patent Abstracts of Japan

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TITLE : OXIDATION TREATMENT FOR TITANIUM OR TITANIUM ALLOY

STRACT : PURPOSE: To obtain the desired hardness fitted for the purpose and to improve wear resistance by changing the proportion of  $O_2$  to  $N_2$  in an  $O_2+N_2$  gas in a method for oxidation treatment where Ti and Ti alloy are heated in the above gas.

CONSTITUTION: In a method for oxidation treatment where Ti and Ti alloy are heated in an  $O_2+N_2$  gas to form an oxide layer and oxygen-enriched layer on the surfaces, the proportion of  $O_2$  to  $N_2$  in the above  $O_2+N_2$  gas is changed. When the proportion of  $O_2$  is increased and the proportion of  $N_2$  is decreased, in particular, hardness in the oxygen-enriched layer can be increased and also the depth of diffusion can be increased, and, as a result, wear resistance can be improved. By this method, the oxygen-enriched layer having required hardness distribution can be obtained.

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